

ARCS PROCEDURE:	RESET - RSR LANGLEY CALIBRATION CHECK PROCEDURE (CALF)	PRO(RSR)-006.002
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## **RESET - RSR Langley Calibration Check Procedure (CALF)**

### **I. Purpose:**

The purpose of this procedure is to describe the steps performed by the RESET team to perform a MFRSR field calibration using the Langley method.

### **II. Cautions and Hazards:**

None.

### **III. Requirements:**

- Familiarity with downloading site data system data files.
- RSRSPPLIT and CALLLANG software for Langley analysis.

### **IV. Procedure:**

#### **A. Steps:**

1. Download the previous day's data, if the sky was clear in the morning and/or in the evening.
2. Construct a separate 24-hour file with RSRSPPLIT.
3. Run CALLLANG to make a plot, identify outliers, and separate out air masses between 2 and 6. Finally, calculate "I<sub>0</sub>," the solar constant.
4. Log the values of "I<sub>0</sub>."
5. If "I<sub>0</sub>" is different in the morning than the afternoon, and/or differs from expected values by  $\pm 5\%$  notify mentor.

### **V. References:**

1. "Automated Multifilter Rotating Shadow-Band Radiometer: An Instrument for Optical Depth and Radiation Measurements," by L. Harrison, J. Michalsky and J. Berndt, Applied Optics, 33(22), 1994.
2. "Yankee Environmental Systems Optical Calibration Facilities," Yankee Environmental Systems Report, 1994.

### **VI. Attachments:**

None.